Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application

is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR

1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn

pursuant to 37 CFR 1.114. Applicant's submission filed on 09/04/2009 has been entered.

Response to Amendment and Arguments

2.   Applicant's arguments with regard to claims 1-3, 9, 11, 14-16, 22-29 and 35 have

been fully considered, but are not considered persuasive because of the following

reasons:

Regarding claim 1, the Applicant argues (page 17 of the Remarks) that Bates

Reference does not disclose group all the detect colors of the plurality of foreground

objects in the first image data into groups, each group containing a grouping of

approximately equal colors from the plurality of foreground objects and comparing, for

each group, the approximately equal colors of the group to all the colors of the second

image data that are adjacent to the first image data of the group. This is because the

Applicant believes (bottom of Page 17) that Bates does not include a group containing

colors from a plurality of objects. The Examiner respectfully disagrees. Bates discloses

a group containing colors from a plurality of objects ("text objects' colors") (column 4,

lines 28-31).

Additionally, the Applicant argues (page 18 of the Remarks) that Bates does not

disclose comparing, for each group, the approximately equal colors of the group to all the

colors of the second image data that are adjacent to the first image data of the group.

Again, the Examiner respectfully disagrees. Bates discloses comparing (column 3, lines

60-65), for each group (color group), the approximately equal colors of the group (range

of colors of each of the colors) to all the colors of the second image data that are adjacent

to the first image data of the group (compare with range of colors of a current-[adjacent]

problem color combination) (column 3, lines 50-67).

The Examiner believes that all the arguments of the Applicant have been properly

addressed and explained. Thus, the rejections of all of the claims are maintained.

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making
and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
contemplated by the inventor of carrying out his invention.

2.   Claims 1-13 and 37 are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the written description requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to reasonably convey to one skilled in the

relevant art that the inventor(s), at the time the application was filed, had possession of the

claimed invention. Regarding claim 1, there is no support in the specification shows the

disclosure of the limitation "means for comparing …to all the colors of the second image data

that **are adjacent to the first image data of the group** ...". The Applicant is required to show

exact location (page number and line number) that has the support for this limitation.

Appropriate action is required.

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.   Claims 1-13 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 1, one of ordinary skill in the art is not able to understand the limitation "means for comparing …to all the colors of the second image data that **are adjacent to the first image data of the group** ...". Appropriate action is required.

Examiner's Note

1.   The Examiner has cited particular columns and line numbers or figures in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-3, 9, 11, 14-16, 22-29, and 35 are rejected under 35 U.S.C. 102(e) as being

anticipated by U.S. Patent 6,809,741 by Bates et al. ("Bates").

[The amended claim's language already addressed above, Response to Amendment and

Arguments Section, thus please refer back to this Section in addition to the Claim Rejection

Sections for a complete teachings and explanations].

Regarding claims 1, 14, 24, and 27, Bates discloses an image processing

device/method/program comprising:

a first color detection means for detecting colors of a first image data ("foreground text")

by each processing unit (computer 100 detects the colors of the pixels ("processing units") for

each foreground text object – see step 320, figure 3), said first image data including data of a

plurality of objects (column 4, lines 16-30);

a second color detection means for detecting colors of a second image data ("background

object") that serves as the first image data's background by each processing unit, the second

image data having a plurality of different colors (computer 100 detects the colors of the pixels

for the background object—see step 307, figure 3; see also figure 5); and

means (computer 100) for:

grouping all the colors of the plurality of objects (column 4, lines 16-30) in the

first image data, which are not the same colors (i.e., the foreground is not monochromatic), into

groups ("foreground text objects"), each of which is for grouping approximately equal colors

(i.e., each foreground text object is a group of pixels having substantially the same color—

accordingly, the foreground text objects represent grouping of text according to color) and

comparing the approximately equal colors of each group to all the colors of the second image

data (column 4/21-33; column 5/44-49; column 11/32-40; also figure 3, step 325: the color of

each of the foreground text objects and the color(s) of the corresponding background objects are

compared by accessing pre-stored user preferences, such as shown in figure 7), and

      specifying a uniform adjusting color for each of the plurality of objects (FIG. 4)

that makes the first image data recognizable against all colors of the second image data that

serve as the first image data's background (i.e., when the color of a foreground text object and

the color(s) of the corresponding background object exhibit a contrast problem (step 330), new

colors for the text and/or background ("uniform adjusting color(s)") are generated at step 335 –

see also figure 7; see also column 21, lines 36-62 where "all" the colors of the second image

data are utilized regardless of the number thereof).

Regarding claims 2, 15, 25, and 28, Bates discloses an image processing

device/method/program as claimed in claims 1, 14, and 24, further comprising: an image

synthesizing means for synthesizing the first image data converted into said adjusting color with

said second image data (i.e. computer 100 synthesizes the text image data that has been

converted to a new color with the background image data).

Regarding claims 3, 16, 26, and 29, Bates discloses an image processing

device/method/program as claimed in claims 1, 14, and 24, wherein said processing unit is a

pixel (i.e. the image data may be in a GIF or JPEG format and therefore, consists of pixels – see

e.g. column 12, lines 2-6).

Regarding claims 9, 22, and 35, Bates discloses an image processing device/program as

claimed in claims 1 and 14, wherein said first image data is an image data that represents

character images (i.e. first image data is foreground text).

Regarding claims 11 and 23, Bates discloses preparing an electronic file based on the

image data synthesized by the image synthesizing means (e.g. a new HTML file is created with

the new color combinations – see column 16, lines 18-22).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 4, 6, 10, 17, 19, 30, 32, and 36-40 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent 6,809,741 by Bates et al. ("Bates") in view of Translation of

Japanese Patent 09-025285A by Honda ("Honda").

Regarding claims 4, 17, and 30, Bates discloses an image processing device/program as

claimed in claims 1 and 14, further comprising:

a first memory means (120) for storing the colors of the first image data by each of

the approximately equal colors (i.e. the values of the detected colors are necessarily stored

somewhere in memory); and

a second memory means (120) for storing the colors of the second image data that serves

as the first image data's background, said colors of which are correlated to each of the

corresponding colors of the first image data that are stored in said first memory means (i.e. the

values of the detected colors are necessarily stored somewhere in memory, and those colors of

the background object are correlated, or correspond, to the text colors that are overlaid thereon);

Bates teaches that one way of determining the background or foreground colors is through a histogram accumulation method, such as shown in figure 5. However, Bates is silent to calculating average values of the background image data (i.e. the second image data), and using the average background color and the text color to determine the uniform adjusting color, as claimed.

Honda discloses an image processing system that makes text more legible by altering the colors of the text so that it exhibits higher contrast as compared with the background on which the text is overlaid. In particular, Honda discloses basing the determination of the new text color on the average of the background colors (page 5 of Honda: "overlay pixel value determination circuit … computes the average pixel value (density value) of a certain region [of the background image]"). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bates by Honda to calculate the average value of the background colors per Honda's teachings and determine the uniform adjusting color based on the colors of the first image data (i.e. the text object) and the average of the second image data (i.e. background colors), since Bates teaches that the manner of detecting the colors of objects is well-known in the art (column 12, lines 10-13), and Honda discloses that one technique for determining a background color is to compute the average of color values in the background. Bates' uniform adjusting color would then be based on the detected text object colors and the average color values of the background.

Regarding claims 10 and 36, Bates discloses an image processing device as claimed in claim 1, further comprising: a third memory means for storing said second image data (i.e. memory 120).

Regarding claims 6, 19, and 32, Honda discloses an image processing device/program as claimed in claims 4 and 17, wherein said average color value calculating means calculates the average value of the coordinate values of the colors of the second image data in a specified color system (page 5 of Honda: "overlay pixel value determination circuit … computes the average pixel value (density value) of a certain region [of the background image]" – this computation is done in the RGB color system).

Regarding claims 37-40, Bates appears to be silent to comparing the first image data groups ("text objects") to a value representing a combination of all of the colors of the second image data ("background objects"), as claimed.

Honda discloses an image processing system that makes text more legible by altering the colors of the text so that it exhibits higher contrast as compared with the background on which the text is overlaid. In particular, Honda discloses basing the determination of the new text color on the average of the background colors (page 5 of Honda: "overlay pixel value determination circuit … computes the average pixel value (density value) of a certain region [of the background image]"). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bates by Honda to calculate a value representing a combination of all of the colors of the second image data (i.e., the average value of the background colors) per Honda's teachings and determine the uniform adjusting color based on the colors of the first image data (i.e. the text object) and the average of the second image data (i.e. background colors), since Bates teaches that the manner of detecting the colors of objects is well-known in the art (column 12, lines 10-13), and Honda discloses that one technique for determining a background color is to compute the average of color values in the background. Bates' uniform

adjusting color would then be based on the detected text object colors and the average color

values of the background.

5.   Claims 5, 18, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent 6,809,741 by Bates et al. ("Bates") in view of Translation of Japanese Patent 09-025285A

by Honda ("Honda"), and further in view of U.S. Patent 5,930,385 by Fujimoto et al.

("Fujimoto").

        Regarding claims 5, 18, and 31, Bates and Honda is silent to a judging means for judging

that colors of the first image data are approximately equal when a sum of squares of the

differences of their coordinate values in a specified color system is less than a specified value.

Bates, for instance, equates two colors when the colors are within a certain range (see delta

values, figure 7)

        Fujimoto discloses an image processing system adapted to perform a color conversion on

an input image, such as converting a color image to a monochrome image. Figure 2 shows a

method for such conversion. Figure 3 shows the process of region dividing, which is included in

the method of figure 2. In dividing the image into color regions, it is determined whether

adjacent pixels have the same color at step 2-3. As figure 8(a) shows, determining whether two

colors are the same involves determining whether the sum of squares of a difference in color

values is less than a threshold.

        It would have been obvious to modify Bates and Honda by Fujimoto to include means to

judge the similarity of input character colors by comparing the sum of squares of the differences

of their coordinate values to a specified value, as claimed, since Bates' methodology includes

categorizing like colors together as shown in figure 5 and Fujimoto teaches that a conventional

method for determining whether two colors are equal or approximately equal involves

comparing the sum of squares of the differences of their coordinate values to a threshold. That

is, Bates groups similar colors together as shown in figure 5, and Fujimoto provides the details

of *how* to determine whether two colors are in fact similar.

6.   Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent 6,809,741 by Bates et al. ("Bates") in view of U.S. Patent 5,872,573 by Adegeest.

        Regarding claim 12, Bates does not expressly disclose obtaining the first and second

image data via a scanner, as claimed.

        Adegeest discloses a system for producing legible text to be overlaid on a background,

similar to that of Bates. In particular, Adegeest discloses that it is conventional to obtain input

images via a scanner for the purposes of adjusting text and background so that the text is more

legible against the background. It would have been obvious to modify Honda by Adegeest to

input the second image via a scanner, as claimed, since Adegeest shows that it was conventional

to input images by electronically scanning documents with a scanner.

        Regarding claim 13, Bates is silent to a printer unit for printing images on recording

media based on the synthesized image data.

        Adegeest discloses a system for producing legible text to be overlaid on a background,

similar to that of Bates. In particular, Adegeest discloses that it is conventional to output

processed images via a printer 23, figure 1. It would have been obvious to modify Honda by

Adegeest to output the synthesized image via a scanner, as claimed, since Adegeest shows that

it was conventional to output images using a printer.

Allowable Subject Matter

7.   Claims 7, 8, 20, 21, 33, and 34 would be allowable if rewritten to include all of the

limitations of the base claim and any intervening claims.

Contact Information

1.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to BRIAN Q. LE whose telephone number is (571)272-7424. The

examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Samir Ahmed can be reached on 571-272-7413. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian Q Le/
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11/9/09